Ham-Space Digest   Tue, 12 Oct 93   Volume 93 : Issue   53

Today's Topics:
                    * SpaceNews 11-Oct-93 *
                       Lindenblad Antenna
                 Where is the NASA type Sat Data?

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>   SpaceNews
>   =========
>
>
>   MONDAY OCTOBER 11, 1993
>
>
>SpaceNews originates at KD2BD in Wall Township, New Jersey, USA. It is
>published every week and is made available for unlimited distribution.
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>
>* HAM RADIO TO FLY ON STS-58 *

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>==================================
>The third SAREX (Shuttle Amateur Radio Experiment) flight of 1993 is
>scheduled for lift-off October 14 aboard the Space Shuttle Columbia
>on a 13 day mission.  Crew members include Pilot Richard A. Searfoss,
>whose amateur license is pending, Mission Specialist William S. McArthur Jr.,
>KC5ACR, and Payload Specialist Martin J. Fettman, KC5AXA.
>
>Amateur Radio frequencies for the mission include: voice downlink (World-
>wide) 145.550 MHz, voice uplinks 144.910, 144.930, 144.950, 144.970,
>144.990 MHz, voice uplink (Europe only) 144.700, 144.750, 144.800 MHz,
>and packet uplink: 144.490 MHz.
>
>15 schools are scheduled to participate, in Arkansas, Texas, Ohio,
>Missouri, Arizona, Tennessee, New Hampshire, Kentucky, Colorado, North
>Carolina, Indiana, and France.
>
>The 39 degree orbital inclination will bring the shuttle higher over the
>temperate latitudes of the earth allowing more ground stations to hear the
>Amateur Radio transmissions from the shuttle and possibly make radio contact
>with the astronauts themselves.
>
>SAREX configuration 'C' is planned for this mission.  This configuration
>includes FM voice and packet radio operations.
>
>The following are pre-launch Keplerian elements for Shuttle mission STS-58:
>
>STS-58
>1 00058U          93287.67747791  .00119475  00000-0  26040-3 0    50
>2 00058  39.0114 124.6663 0007676 272.4217  87.5676 15.96123499    22
>
>Satellite: STS-58
>Catalog number: 00058
>Epoch time:      93287.67747791  =    (14 OCT 93   16:15:34.09 UTC)
>Element set:     005
>Inclination: 39.0114 deg
>RA of node:       124.6663 deg          Space Shuttle Flight STS-58
>Eccentricity: .0007676            Prelaunch Element set JSC-005
>Arg of perigee:  272.4217 deg         Launch:  14 OCT 93  14:53 UTC
>Mean anomaly:      87.5676 deg
>Mean motion:   15.96123499 rev/day          Gil Carman, WA5NOM
>Decay rate:     1.19475e-03 rev/day^2     NASA Johnson Space Center
>Epoch rev:                  2
>Checksum: 329
>

>John A. Magliacane, KD2BD   * /\/\ * Voice   : 1-908-224-2948
>Advanced Technology Center  |/\/\/\| Packet  : KD2BD @ N2KZH.NJ.USA.NA
>Brookdale Community College |\/\/\/| Internet: kd2bd@ka2qhd.ocpt.ccur.com
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>Lincroft, NJ 07738   * \/\/ * Morse   : -.- -.. ..--- -... -..
>

Date: Mon, 11 Oct 1993 23:14:50 GMT
From: scubed!nuntius@network.ucsd.edu
Subject: Lindenblad Antenna
To: ham-space@ucsd.edu

Subject: Lindenblad Antenna

>>In <CEJGF4.HFr@freenet.carleton.ca>
ae517@Freenet.carleton.ca (Russ Renaud) writes:
>>>Has anyone on this newgroup actually built a
Lindenblad. How well does it
>>>work for LEO satellites, such as the APT birds or
digital hamsats?
>>
(I don't have the original post so I am quoting from
someone elses quote-sorry. That can lead to misquotes and
problems at times)

>>It worked not all that great for weathersat reception.
The problem seemed to
>>be periodic reflections from the ground. I would get
regular noise bands
>>across the image. It also seemed to be fairly subject to
terrestrial noise
>>pickup (ignition and/or powerline noise).
>
This sounds like a problem with feedline imbalance. The
outer surface of the coax feedline is acting as an antenna
to pickup noise. Later on in the thread I find
P11163@email.mot.com (Ned Stearns) writes;

>You do feed all the dipoles in phase. I I simply
paralleled all of the four twin lead
>phasing sections together on a female N connector and
RTV'd the whole thing for
>some semblence of a weather seal (rain is not the primary
concern out here in AZ).
>Polarization sense of the antenna is determined by the
orientation of the dipoles.
>When I built mine, I patterned it after the article that
is in the Amatuer Radio
>Satellite Handbook. I scaled it from the two meter design
to 137 MHz.

>
If this is the way the antenna with the noise problem is
constructed, then a balanced antenna, the 4 paralleled
folded dipoles, is being fed with an unbalanced line,
coax. A 1:1 balanced to unbalanced transformer (1:1 balun)
should be used after the N connector. A W2DU type bead
balun can be used or you can check the handbook for a
simple 1:1 1/4 wavelength coax balun. This should reduce
noise pickup by the feedline.

The LIndeblad is a neat way to generate circular
polarization and was initially developed by Lindeblad at
RCA to reduce ghosting on TV and FM from skyscrapers in
New York CIty.

James R. Duffey   KK6MC/5
S-Cubed Division of Maxwell Laboratories
2501 Yale Street SE Suite 300
Albuquerque, NM 87106
"Computers-Garbage in Gospel out"-Bill Powell

Date: Mon, 11 Oct 1993 16:17:35 GMT
From: dog.ee.lbl.gov!agate!howland.reston.ans.net!vixen.cso.uiuc.edu!uchinews!
milo.mcs.anl.gov!chbmac01.el.anl.gov!user@network.ucsd.edu
Subject: Where is the NASA type Sat Data?
To: ham-space@ucsd.edu

(Sorry for the (old) question but) -- just where can I get
new (or current) NORAD/NASA 2- Line Satellite Data from via
internet?

Is there a conversion program from the AMSAT format?

(Could someone e-mail me a new set?)

Thanks--
de WO9K

--

"If I told you all that went down, it would burn off both your ears..."
                                       -Robert Hunter/Jerry Garcia

----
These thoughts are only my own. CHBeck@anl.gov

Date: 12 Oct 1993 00:22:36 GMT
From: dog.ee.lbl.gov!agate!howland.reston.ans.net!sol.ctr.columbia.edu!destroyer!
nntp.cs.ubc.ca!unixg.ubc.ca!rflab.ee.ubc.ca!davem@network.ucsd.edu
To: ham-space@ucsd.edu

References <nlewis.0lqd@terapin.com>, <1993Oct9.171123.7950@ke4zv.atl.ga.us>,
<1993Oct11.231450.3158@scubed.com>.c
Subject : Re: Lindenblad Antenna

In article <1993Oct11.231450.3158@scubed.com>,
James R. Duffey <ji3m@scubed.com> wrote:
>
>The Lindenblad is a neat way to generate circular
>polarization and was initially developed by Lindenblad at
>RCA to reduce ghosting on TV and FM from skyscrapers in
>New York City.

Without going into great detail, the notion that use of CP antennas reduces
multipath fading is largely wishful thinking on the part of Kraus and
others.

In an ideal setting where the ground is a *perfect* conductor, the
sense of the multipath wave is indeed reversed while its ellipticity
remains unchanged. In practice, incidence often occurs below the
Brewster angle and the sense of the multipath wave is *NOT* reversed.
Similarly, the ellipticity of the multipath wave is rarely preserved
on reflection.

There was certainly a great deal of interest in the use of CP antennas
to reduce multipath in TV during the late 1970's and early 1980's.
The NAB Conference Proceedings and IEEE Transactions on Broadcasting
contain quite a few papers on the subject. In practice, the results
were extremely disappointing and the matter was quickly abandoned.

--
Dave Michelson
davem@ee.ubc.ca

End of Ham-Space Digest V93 #53
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